

*File
PSA/PCA - Complaints*

ASH GROVE CEMENT COMPANY

“WESTERN REGION”

July 28, 1994

Mr. Tom Hudson
Puget Sound Air Pollution Control Agency
110 Union Street, Suite 500
Seattle, WA. 98119-3958

Re: Analysis of sample #1 Toyota 847-DQE

Dear Mr. Hudson,

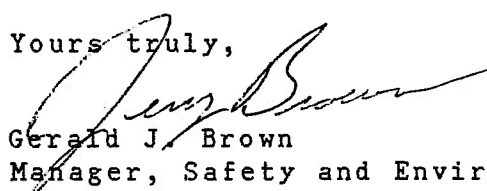
Please find enclosed the results of the above sample analyzed per your request and the remaining sample material.

As with the previous sample, these results indicate a material of natural origin resembling road dust or common soil that had not gone through the clinkering or burning process. Further analysis found the particle size of the sample to be generally larger than the kiln raw feed. Given these factors, along with the other test results, we must conclude that this material did not originate from our facility.

Please inform those interested of these results and express our concern and understanding of this matter. We remain committed to helping our neighbors and resolving this issue.

We will gladly explain any questions you may have about the results or further assist you any way possible.

Yours truly,


Gerald J. Brown
Manager, Safety and Environmental

cc: E. Pierce ✓
Hans Steuch
Pat Noon

cc: Matt

ASH GROVE CEMENT COMPANY



"WESTERN REGION"

3801 EAST MARGINAL WAY, SOUTH • SEATTLE, WA 98134 • PLANT OFFICE: (206) 623-5596 • FAX: (206) 623-5355

Inter-Office Memorandum

Date July 28, 1994

To Jerry Brown

From Patrick Noon *PN*

Copies to Ed Pierce

Subject PSAPCA

We received an 11 gram sample from PSAPCA (Sea#1025-94). This material had been removed from an automobile on East Marginal Way South. The sample was labeled "Sample #1 Toyota 847-DQE 07/19/94 15:00". We received enough sample to run a battery of tests. We were also able to look at the material under the reflective and polarizing microscope (see attached pictures). The material is quite coarse, consisting of irregular shaped particles. The average particle diameter by microscopy is 79.5 microns. The chemical analysis and microscopy is listed on page #2. Discussion of results is listed on page #3.

ASH GROVE CEMENT SEATTLE LAB

Sample #	1025-94
Date Recd	July 22, 1994
Sample Weight	11.5 grams

Chemical Analysis	
Size (microscopic)	79.5 microns
Insoluble %	19.83
SiO ₂ %	28.2
Al ₂ O ₃ %	8.3
Fe ₂ O ₃ %	4.2
CaO %	44.0
MgO %	2.8
SO ₃ %	0.78
Na ₂ O %	not determined
K ₂ O %	0.40
Ignition Loss	9.34

Microscopy

Microscopically the material has a lot of quartz. This appears very bright under polarizing light with 1.54 refractive index oil. The material is also very coarse. There are almost no fine particles.

Picture #0.

Quartz standard under polarizing transmitted light with refractive index oil 1.54. Note bright appearance and color patterns.

Picture #1

Note three bright quartz crystals under 1.54 refractive index oil. Note other crystals are darkened.

Picture #2.

1025-94 #2 100x Transmitted light showing irregular shape and color patterns. The large particles average 80 microns.

Picture #3.

1025-94 #3 100x Reflected light. Shows irregular crystal colors and shapes.

Picture #4.

1025-94 #4 100x Reflected light. Shows irregular crystal colors and shapes.

Picture #5.

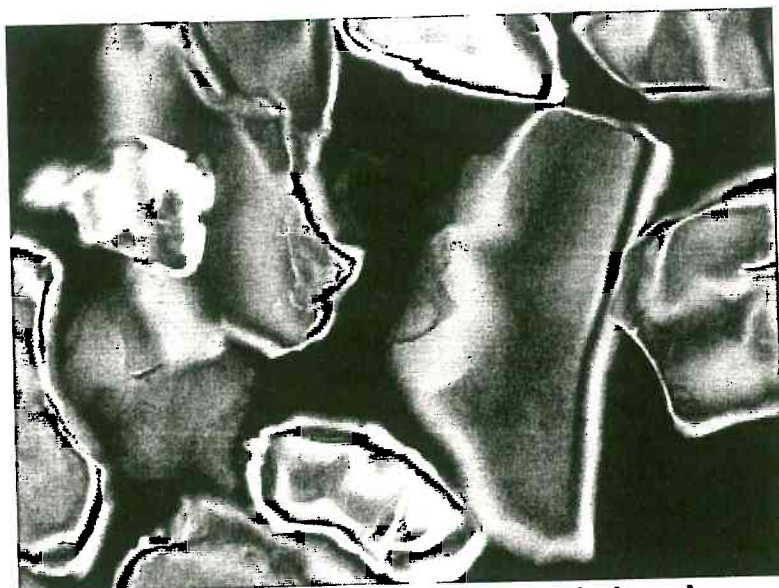
1025-94 #5 400x Polarized light. Shows bright quartz crystals. Some of the rounded edges of the quartz indicate weathering.

General discussion.

Our three main process products are listed below.

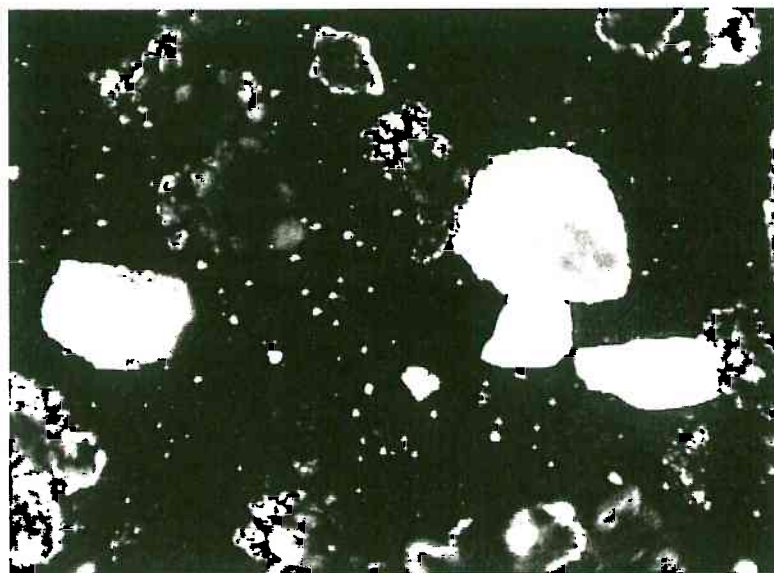
1. Kiln feed
2. Clinker
3. Cement

The key test is the Insoluble % test, which detects quartz or clay/soil materials. Clinker and Cement having been processed through a kiln system, have a very low Insoluble (<0.20%). This material having an Insoluble of 19.83% indicates a natural material that has not been burned. This goes a long way towards eliminating material #2 and material #3 listed above. The SO₃ level of the dust sample is 0.78%. A typical cement SO₃ level is 2.7 % SO₃. In addition almost 99% of cement is smaller than the average particle size of this dust. A process material that is on site that could match the above chemistry is raw feed or kiln feed. It is very unlikely to be any of these because 90% of our kiln feed has a particle size smaller than the PSAPCA dust sample. In addition in our kiln feed the concentration of quartz in this size range is only 1-2 % at the most. The ignition loss for kiln feed is typically 35% instead of 9.34%. The irregular shapes and granularity looks similar to common road or fugitive dust.

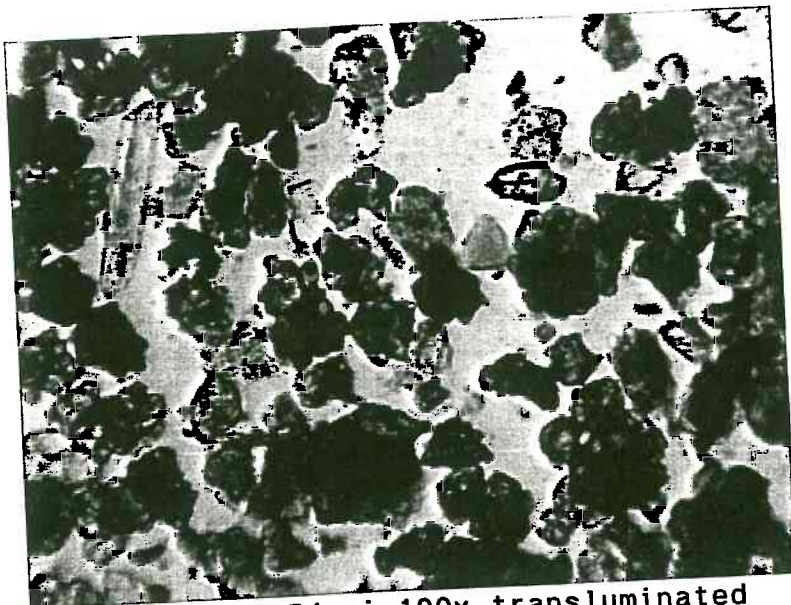


Pure Quartz 1.54 ri 100x polarizing lens

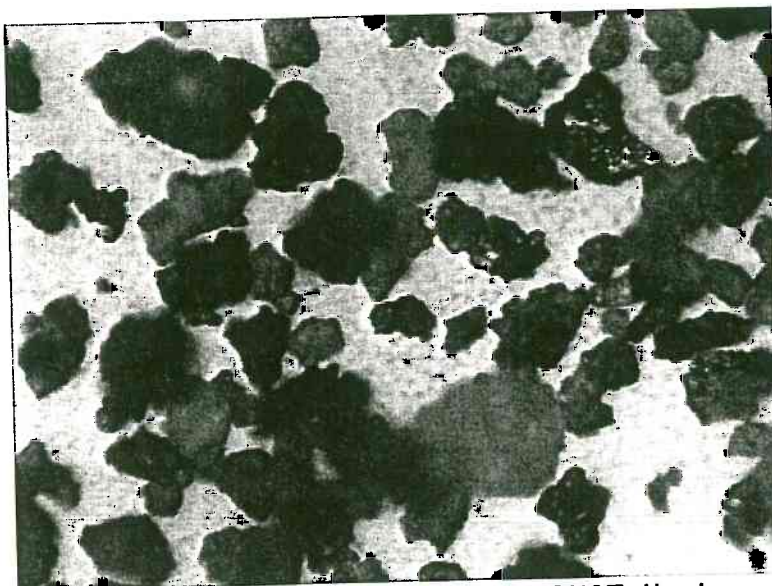
#0



1025-94 #1 1.54 ri 100x polarizing lens

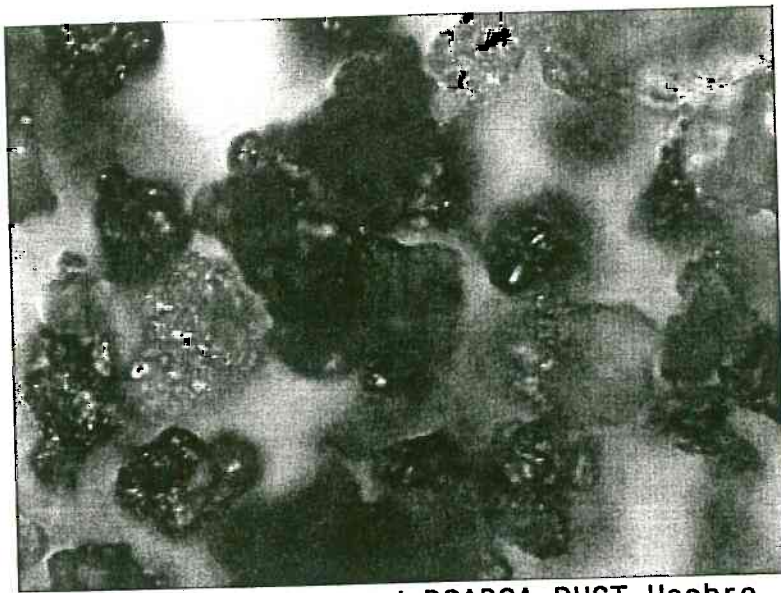


1025-94 #2 1.54 ri 100x transluminated



1025-94 100xReflected PSAPCA DUST Hasbro

#3



1025-94 200xReflected PSAPCA DUST Hasbro #4



1025-94 400xPolarized 1.54ri "Quartz" #5